REMARKS

Claims 1-3, 9-12, 15-19, 21, 23, 25-30, 32-39, 41-43 and 46-47 are pending in the application. Claims 1 and 19 are independent.

Claim Objections

The Office Action objects to claim 15 for depending upon cancelled claim 14. Present claim 15 depends from still-pending claim 1. The Office Action objects to a typographical error in claim 36. Applicants have corrected the same, replacing the phrase "dual tome mufti frequency" with the phrase "dual tone multi frequency." Withdrawal of the objections is respectfully solicited.

Objection to the Specification

The Office Action objects to the specification, alleging that the recitation in claim 47 that "the reducing step is repeated two or more times" is without antecedent basis in the Specification. Applicants respectfully disagree.

The Specification at ¶0025 provides:

> "Once such sections have been analyzed the sections outwardly and adjacent thereto can be analyzed as well. **This process can be iterative** to cover all, or part of or a predetermined area of the media examined." (Emphasis supplied).

The Specification at ¶0031 provides:

> "If a previous run of the method was executed, and a Region of Interest has been previously defined, then the apparatus...can perform **additional analysis** at this stage **to further narrow or better define the limits** of the previously selected Region of Interest."

At least the two foregoing paragraphs of the Specification taken together show that it is possible to perform an analysis region-by-region, for example as set forth in ¶0025 outwardly and to adjacent regions. Such an iterative analysis implies repetition at least twice.

Claim 47 is proper under 37 C.F.R. 1.75 if its terms "find clear support **or** antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to

the description." (Emphasis supplied). There is no requirement in Rule 1.75 for a term in a claim to appear in the description *in haec verba*. Applicants submit that the term "the reducing step is repeated two or more times" has a meaning that is clearly ascertainable from at least¶¶0025 and 0031 of the Specification.

Reconsideration of the objection to the Specification is respectfully solicited.

Claim rejections, 35 U.S.C. § 102

The Office Action rejects claims 1-3, 9, 10, 15-17, 19, 21, 23, 25-27, 29, 32-39, 41 and 46-47 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Application Ser. No. 2004/0083099 by Scarano et al. (hereinafter "Scarano"). Applicants are respectfully traversing this rejection.

Claim 1 is directed to an apparatus for event-driven content analysis of an audio interaction captured in a call center, the apparatus comprising an audio or video recording device for recording the audio interaction and obtaining an interaction media; a pivot spot defining component for automatically marking a time position in the audio interaction that indicates the occurrence of a pre-defined event or data item; a first analysis component; a region of interest defining component for defining an initial region of interest, by determining the time limits of a segment of the audio interaction, the segment containing the time position of a pivot spot, and for activating the first analysis component for dynamically reducing the time limits of the initial region of interest to obtain the region of interest; and a second analysis component for analyzing the region of interest of the audio interaction, wherein the first analysis component and the second analysis component are selected such that the second analysis component requires more computing resources than the first analysis component.

The Office Action asserts that Scarano discloses a first analysis component (FIG. 19 of Scarano, step 1902). Scarano characterizes the action of step 1902 as a "capture" and a "recording" of a conversation. *See* Scarano at ¶0157. Scarano shows that this capture is a simple write to

storage, with an optional step of compression. *See Id.* This is not an analysis. Accordingly, it follows that that whatever performs step 1902 in Scarano is not an *analysis* component.

Scarano at step 1905 (speech processing) creates an intermediate format. *See* Scarano at ¶0160. "Speech processing 1905...invokes the speech engine to pre process the audio into an intermediate format. The intermediate format is a representation of the audio that is optimized for rapid searching. Some representations that are suitable for rapid searches are a statistical model of the phonemes or a text representation of the contents of the audio."

Even assuming, *arguendo*, that speech processing at step 1905 is a first analysis, Scarano nevertheless does not disclose a <u>second</u> analysis component for analyzing the region of interest. In ¶0098-¶0102 of Scarano, search engine 205 operating on the audio repository is the first engine searching the audio and not a second one. Search engine 205 searches database 202 for calls meeting certain criteria, such as start and end time or other technical data that does not relate to the audio itself. Engine 205 then performs the search on all calls retrieved according to the criteria. The results of search engine 205 are stored in the database.

Steps 1906-1908 of Scarano are then performed **on the intermediate format** generated on step 105, and not upon the audio file, see ¶0164 of Scarano:

> "At step 1907 any searches required to support the rules execution are performed. **Searches are performed against the intermediate file created at step 1905**. If the intermediate format is a statistical model of the phonemes, then the search string must be represented as a set of probable phonemic representations of each word in the search string. If the search string was entered as text, a mapping of the text to a plurality of possible phoneme strings is performed in this step. (Note that a single text phrase may map to more than one symbolic representation.) If the intermediate file is text, then no format conversion is required. Once the intermediate file and search string are in a common format, a pattern match is performed, and a confidence is returned that the search pattern exists within the processed audio"

The processing being performed on the intermediate file is also demonstrated in Fig. 19 of Scarano in which the only input to step 1906-1908 is the output of step 1905.

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The single processing is also described in Fig. 12 and ¶0112 of Scarano:

> "*Normally, calls are automatically processed by the system as they take place. ... A typical use of the system is to first use the speech mining feature to constrain the calls to the one that have been selected for processing, and the invoke the speech processor for the calls that have been selected ... Once processed, the calls can be searched at high-speed. Processing may include conversion of the audio into a series of symbols representing the speech, e.g., phonetic information.*"

Even assuming, *arguendo*, that two analysis steps are performed upon **the audio**, the first processing is not activated for dynamically reducing the time limits of the initial region of interest to obtain the region of interest, but rather creates a searchable format.

Further, the second analysis, which the Office Action asserts comprises steps 1906-1908, is not mentioned to operate on sub-regions of the calls. Yet further, no resource consumption difference is indicated between the processing.

Naturally, performing a first **and** second analyses consume more resources than performing only a first analysis. However, Scarano fails to disclose that the second analysis *per se* requires more resources than the first analysis. On the contrary, searching a searchable format requires less resources than processing audio.

Applicants have amended claim 1 to make explicit what was implicit, i.e. that the first analysis component and the second analysis component are selected such that the first analysis component, which operates over the initial ROI consumes less resources than the second analysis, which operates on the ROI (which is smaller than the initial ROI).

In view of the above, Scarano does not disclose claim 1, including activating the first analysis component for dynamically reducing the time limits of the initial region of interest to obtain the region of interest; a second analysis component for analyzing the region of interest of the audio interaction; or that a second analysis component requires more computing resources than the first

analysis component. Reconsideration and withdrawal of the §102 rejection of claim 1 are respectfully solicited.

Claims 2-3, 9, 10, 15-17, 34, 36, 38, and 46 depend from claim 1 and, for at least the reason of such dependence, are also patentable over Scarano. Reconsideration and withdrawal of the § 102 rejection of these claims are respectfully solicited.

The same arguments as for claim 1 are also applicable towards **claim 19**. Scarano does not teach reducing the initial region of interest in accordance with a result of the fist analysis, to obtain a region of interest; performing a second analysis on the region of interest; and wherein the second analysis requires more computing resources than the first analysis.

Claims 21, 23, 25-27, 29, 32-33, 35, 37, 39, 41, and 47 depend from claim 19 and are also allowable for the reasons set forth above with respect to claims 1 and 19 addressed above. Reconsideration and withdrawal of the § 102 rejection of these claims are respectfully solicited.

Claim rejections, 35 U.S.C. § 103

The Office Action rejects claims **11, 18 and 30** under §103 as being unpatentable over Scarano, in view of U.S. Pat. 6,937,706 to Bscheider et al. ("Bscheider").

In forming the section 103 rejection, the Office Action acknowledges that Scarano fails to teach the first analysis component or the second analysis component being a screen event analyzer component, and introduces Bscheider for the proposition that Bscheider teaches the first analysis component or the second analysis component being a screen event analyzer component. Assuming *arguendo* that Bscheider so teaches, nevertheless Bscheider does not operate to overcome the several inabilities of Scarano to disclose the independent claims. Thus claims 11, 18 and 30 depend from claims that are allowable, and are, at least by virtue of such dependence, also patentable over the cited art.

The dependent claims contain additional features absent from the prior art of record. For example:

Claim 11 requires that the first or the second analysis components be a screen event analyzer component. Screen events relate to events occurring on the screen of the agent, see for example ¶0019 of the current application: "Screen events are based entirely on what takes place on an agent's display screen. Screen events may be used as triggers to other actions whenever an event of choice takes place. Interactions are tagged with the event, enabling ready search, retrieval and evaluation of the calls. One non-limiting example of a screen event analysis involves the capturing of a field displayed on the agent's screen that indicates the change of status of a user account. For example, when the account status changes from 'Active' to 'Inactive' an event is generated and recorded to a database."

Bscheider, however, relates to screen image data and not to screen events as information additional to the data being processed or as indicators to identifying time locations within the sequence. Claim 11 is thus patentable over Bscheider.

The same arguments as for claim 11 are also applicable towards claim 18 and claim 30. Applicants are respectfully requesting that the §103 rejection of claims 11, 18 and 30 be reconsidered and withdrawn.

The Office Action rejects claims 12 and 28 under §103 as being unpatentable over Scarano, in view of U.S. Pub. 2002/0194002 to Petrushin ("Petrushin"). In forming the §103 rejection, the Office Action acknowledges that Scarano fails to teach an emotion analysis component, and introduces Petrushin for the proposition that Petrushin teaches an emotion analysis component. Assuming, *arguendo,* that Petrushin so teaches, nevertheless Petrushin does not operate to overcome the several inabilities of Scarano to disclose the independent claims. Thus claims 12 and 28 depend from claims that are allowable, and are, at least by virtue of such dependence, also patentable over the cited art. Applicants are respectfully requesting that the section 103 rejection of claims 12 and 28 be reconsidered and withdrawn.

The Office Action rejects claim 42 under §103 as being unpatentable over Scarano, in view of U.S. Pat. 6,724,887 B1 to Eilbacher ("Eilbacher"). In forming the §103 rejection, the Office Action acknowledges that Scarano fails to teach wherein the method is used for verifying that an agent requested a customer's permission to put the customer on hold, wherein the pivot spot is the time the agent put the customer on hold, the initial region of interest is the whole interaction, and wherein the region of interest is defined by a first predetermined number of seconds prior to the pivot spot and a second predetermined number of seconds following the hold, and introduces Eilbacher for the proposition that Eilbacher so teaches. Even assuming, *arguendo*, that Eilbacher indeed so teaches, nevertheless Eilbacher does not operate to overcome the several inabilities of Scarano to disclose the independent claims. Thus claim 42 depends from a claim that is allowable, and is, at least by virtue of such dependence, also patentable over the cited art.

In addition, Eilbacher does not disclose or suggest identifying a particular time location within the interaction. On the contrary, Eilbacher teaches analyzing interactions **as a whole**, see for example col. 10 line 17: "*these types of recordings allow for evaluating of the full customer experience during the interaction.*" (Emphasis supplied). Eilbacher is recording and evaluating full interactions only, cradle-to-grave, and teaches away from setting a pivot spot, which would be not only meaningless in such a recording scheme, but would needlessly consume resources.

Applicants are respectfully requesting that the §103 rejection of claim 42 be reconsidered and withdrawn.

The Office Action rejects claim 43 under §103 as being unpatentable over Scarano, in view of Eilbacher and in further view of U.S. Pat. 5, 918,213 to Bernard et al. ("Bernard"). In forming the section 103 rejection, the Office Action acknowledges that Scarano fails to teach wherein the method is used for measuring the effectiveness of a promotion offer to a customer requesting the termination of the service, wherein the pivot spot is the time of a screen event related to offering a promotion or to an account being saved or lost, and wherein the region of interest is defined by a
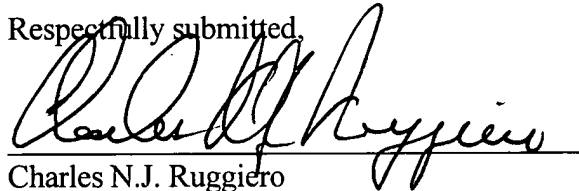
first predetermined number of seconds prior to the pivot spot, and introduces Eilbacher and Bernard for the proposition that Eilbacher and Bernard so teach. Assuming *arguendo* that Eilbacher and Bernard indeed so teach, nevertheless Eilbacher and Bernard, either separately or in combination do not operate to overcome the several inabilities of Scarano to disclose the independent claims. Thus claim 43 depends from a claim that is allowable, and is, at least by virtue of such dependence, also patentable over the cited art.

Applicants are respectfully requesting that the section 103 rejection of claim 43 be reconsidered and withdrawn.

Applicants believe that the application is now in order for allowance. Accordingly a notice of allowance for all the claims is respectfully requested. The Examiner is invited to contact the undersigned to discuss advancement of prosecution.

Respectfully submitted,

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Date

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